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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/200,523	11/25/1998	SYED AON MUJTABA		4927

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EXAMINER

ELALLAM, AHMED

ART UNIT PAPER NUMBER

2662

DATE MAILED: 03/31/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/200,523

Applicant(s)

MUJTABA, SYED AON

Examiner

AHMED ELALLAM

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-11,13-18,20 and 21 is/are rejected.
- 7) ☒ Claim(s) 5,12 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This communication is responsive to amendment filed on November 21, 2002.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, 8, 11, 15, 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Van Nee, US (6,175,550).

Regarding claims 1, 4, 8, 11, 15, 18, with reference to figure 5, Van discloses transmitting on subsets of carriers that provides the possibility of asymmetric data links, meaning that data rates can be different for uplink and downlink. Asymmetric links often occur in practice, e.g., downloading data. The OFDM system 70 (figure 5) supports asymmetric links by dynamically providing remote stations 74 with a different number of carriers for uplink and downlink. Also, since in a centralized system the base station 72 can transmit at higher power levels than the mobiles 74, it is possible to use higher level modulation schemes on the carriers (e.g. 16 QAM), such that the downlink capacity is larger than the uplink capacity. Column 8, lines 51. In addition, the OFDM system 70

can provide the advantages of asymmetric data rates when needed, such as during the downloading of data from the base station 72 to the remote station 74, by dynamically altering the number of carriers used for downlink to receiver 30 (FIG. 4) of the remote station 74 and for uplink from the transmitter 10 of the remote station 74. Additionally, the OFDM system 70 can dynamically scale various operating characteristics and/or parameters for the stations 72 and 74 and can provide different operating characteristics and/or parameters between the base station 72 and different remote stations 74 or provide varying symmetric operating characteristics and/or parameters between the base station 72 and a remote unit 74. Column 9, lines 24-41.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 9, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van in view of Kapoor et al, US 20020105928 A1.

Regarding claims 2, 9 and 16, Van discloses all the limitation of claim 1, except it does not disclose that the wireless system is a fixed wireless loop.

However, Kapoor discloses in the same field of endeavor the use of Orthogonal Frequency Division Multiplexing (OFDM) as a modulation and multiple access method for commercial wireless communication systems is expected to grow in the future and

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that potential applications include wireless local loop (also called wireless fixed loop), wireless local area networks and cellular and PCS systems. See paragraph [005].

Therefore, it would have been obvious to an ordinary person of skill in the art, at the time the invention was made to use the proposed OFDM wireless fixed loop of Kapoor applied in Van's OFDM apparatus so that reduced interference wireless fixed loop system can be provided.

3. Claims 3, 6, 7, 10, 13, 14, 17, 20, 21, are rejected under 35 U.S.C. 103(a) as being unpatentable over Van in view of Hakkinen, US (6,282,185).

Regarding claims 3, 10, 17, Van discloses all the limitation of claim 1, except it does not disclose separating a subset of the plurality of subscriber units in a cell using a code division multiple access.

However, Hakkinen discloses, in the same field of endeavor, that the use of OFDM/CDMA methods to enable separation of signals is well known in the art. See column 2, lines 42-67 and column 3, lines 1-59.

Therefore, it would have been obvious to an ordinary person of skill in the art, at the time the invention was made to use the well-known OFDM/CDMA methods disclosed by Hakkinen in Van's system so that Van's system would be less prone to channel degradations.

Regarding claims 6, 13, 20, Van discloses all the limitation of claim 4, 13, and 20, except it does not disclose applying an inverse Fourier transform operation to the OFDM carriers in a transmitter.

However, Hakkinen discloses, in the same field of endeavor, that in OFDMA method (Orthogonal Frequency Division Multiple Access) the spread-coded symbol train of a transmission signal is modulated by sub-carriers which are preferably distributed to a wide frequency band and that OFDMA modulation is typically carried out by inverse Fourier transformation. See column 1, lines 31-38.

Therefore, it would have been obvious to an ordinary person of skill in the art, at the time the invention was made to use Inverse Fourier Transform method referred to by Hakkinan in Vans transmitters so to modulate the OFDM signals of Van.

Regarding claims 7, 14 and 21, claims 7, 14 and 21 have the same scope of the reverse step of respective rejected claims 6, 13, and 20. Thus, by way of symmetry they are subject to similar rejection, because the IFT at the transmitter at the transmitter does require a reverse step, which must be a Fourier transform operation.

Allowable Subject Matter

4. Claims 5, 12, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments with respect to claim 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (703) 308-6069. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kizou Hassan can be reached on (703) 305-4744. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

AHMED ELALLAM
Examiner
Art Unit 2662
March 24, 2003



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